Title: Color Adjustment Using Black Generation and Under Color Removal 1 of 9

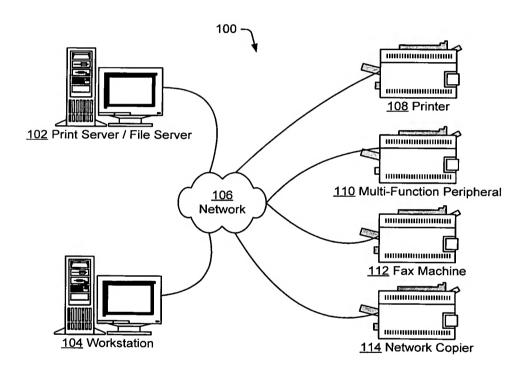
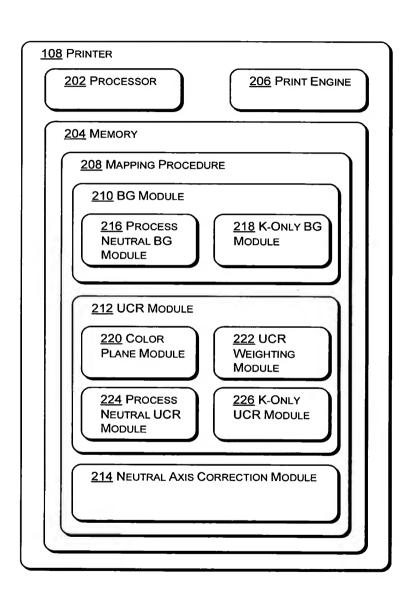


Fig. 1

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300 —

302

TAG OBJECTS WITHIN A DOCUMENT FOR APPLICATION OF A FIRST OR SECOND COLOR SEPARATION ALGORITHM

304

PERFORM TWO COLOR SEPARATIONS,
WHEREIN CMY COLOR DATA IS
MAPPED TO CMYK COLOR DATA IN
TWO WAYS, ONE RESULTING IN A
PROCESS-NEUTRAL AXIS AND ONE
RESULTING IN A K-ONLY NEUTRAL AXIS
AND APPLY THE APPROPRIATE COLOR
SEPARATION TO EACH OBJECT
ACCORDING TO ITS TAG

306

IN THE COLOR SEPARATIONS, A
DEGREE TO WHICH MAPPING INTO THE
PROCESS-NEUTRAL COLOR SPACE AND
THE MAPPING INTO THE K-ONLY
NEUTRAL COLOR SPACE IS
HARMONIZED IS CONTROLLED BY
ADJUSTING BG COEFFICIENTS

308

IN THE COLOR SEPARATIONS, A
DEGREE TO WHICH MAPPING INTO THE
PROCESS-NEUTRAL COLOR SPACE
AND THE MAPPING INTO THE K-ONLY
NEUTRAL COLOR SPACE IS
HARMONIZED IS CONTROLLED BY
ADJUSTING UCR COEFFICIENTS

310

COLOR IN A NEUTRAL AXIS OF A
PROCESS-NEUTRAL COLOR SPACE IS
REDUCED BY MOVING MOST OR ALL
POINTS IN THE PROCESS-NEUTRAL
COLOR SPACE

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400

402

SIMILAR BG COEFFICIENTS ARE USED TO MAP A POINT IN BOTH PROCESS-NEUTRAL AND K-ONLY COLOR SPACES, WHEREIN THE POINT IS MORE THAN A DISTANCE FROM A NEUTRAL LINE

404

DISSIMILAR BG COEFFICIENTS ARE
USED TO MAP A POINT IN BOTH
PROCESS-NEUTRAL AND K-ONLY
COLOR SPACES, WHEREIN THE POINT
IS LESS THAN A DISTANCE FROM A
NEUTRAL LINE

406

CONTROL OVER THE DISTANCE IS PROVIDED, THEREBY ALLOWING CONTROL OVER A DEGREE TO WHICH THE IMAGES ARE HARMONIZED

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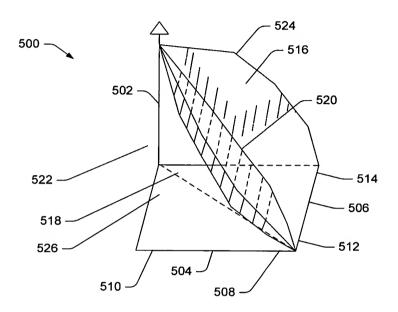
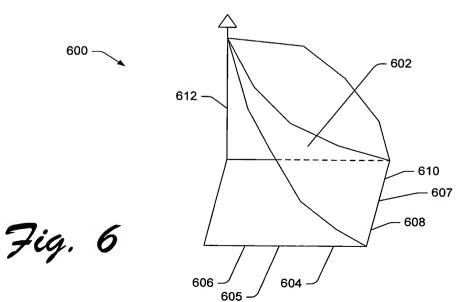


Fig. 5



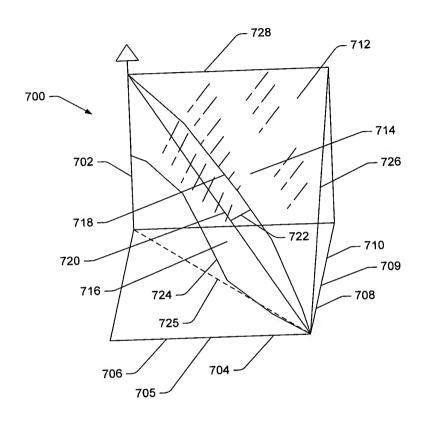
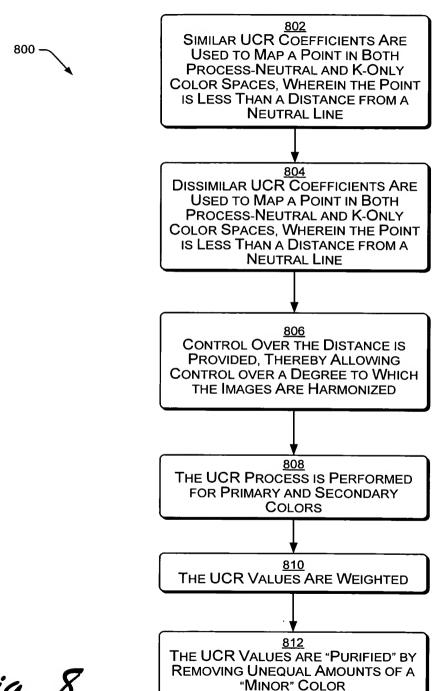


Fig. 7



Title: Color Adjustment Using Black Generation and Under Color Removal

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902 THE PROCESS-NEUTRAL COLOR SPACE IS MAPPED INTO A COLOR 900 -SPACE DEFINED IN LAB 904 A CORRECTION VECTOR IS ESTABLISHED BETWEEN A POINT ON THE NEUTRAL AXIS AND A POINT HAVING NEUTRAL HUE 906 A VECTOR IS ESTABLISHED BETWEEN THE POINT ON THE NEUTRAL AXIS AND A POINT ON A BOUNDARY OF THE GAMUT. WHEREIN THE VECTOR GOES THROUGH A POINT TO BE MOVED 908 A THIRD VECTOR IS ESTABLISHED THROUGH THE POINT HAVING NEUTRAL HUE AND THE POINT ON THE BOUNDARY OF THE GAMUT 910 A BISECTING VECTOR IS ESTABLISHED, **BISECTING AN ANGLE BETWEEN THE GAMUT BOUNDARY VECTOR AND THE** THIRD VECTOR 912 THE POINT TO BE MOVED IS PROJECTED ONTO THE BISECTING **VECTOR**

914

FORMULAS, BASED ON VECTOR LENGTHS. ARE USED TO MOVE THE POINT TO BE MOVED TO A NEW LOCATION IN THE LAB SPACE HAVING A SIMILAR L VALUE

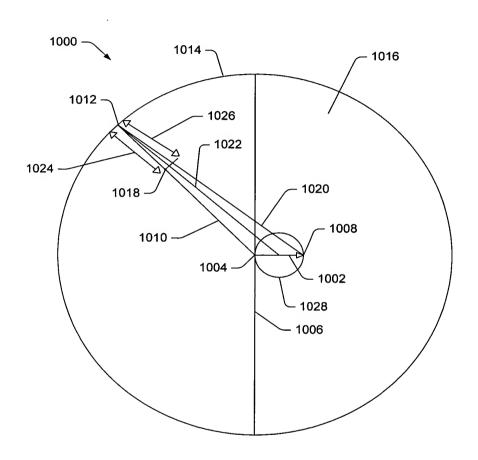


Fig. 10